

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: **OLKIN et al.**

Application No.: **10/707,191**

Group No.: **2137**

5 Filed: **11/25/2003**

Examiner: **GELAGAY, Shewaye**

For: **IMPLEMENTING NONREPUDIATION AND AUDIT USING  
AUTHENTICATION ASSERTIONS AND KEY SERVERS**

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P.O. Box 1450, Alexandria, VA 22313-1450

**AMENDED APPEAL BRIEF (37 C.F.R. § 41.31)**

15 This brief is in furtherance of the Notice of Appeal, previously filed, and in response to a  
Notification of Non-Compliant Appeal Brief dated 11/14/2007.

The fees required under § 41.20, and any required petition for extension of time for filing  
this brief and fees there for, have previously been dealt with.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(1)):

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The final page of this brief bears the practitioner's signature.

**I REAL PARTY IN INTEREST**  
(37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is Secure Data In Motion, Inc., a Delaware corporation of 1875 South Grant Street, Suite 850, San Mateo, CA 94402, which is assignee of the entire right, title and interest to the invention in the United States and in all foreign countries.

**II RELATED APPEALS AND INTERFERENCES**  
(37 C.F.R. § 41.37(c)(1)(ii))

With respect to other appeals or interferences which may be related to, that will directly affect, or be directly affected by or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences.

**III STATUS OF CLAIMS**  
(37 C.F.R. § 41.37(c)(1)(iii))

The status of the claims in this application are:

**A. TOTAL NUMBER OF CLAIMS IN THE APPLICATION**

Claims in the application are: 1-27

**B. STATUS OF ALL OF THE CLAIMS**

1. Claims rejected: 1-27
2. Claims allowed or confirmed: NONE
3. Claims withdrawn from consideration: NONE
4. Claims objected to: NONE
5. Claims canceled: NONE
6. Accordingly, the pending claims are: 1-27

**C. CLAIMS ON APPEAL**

The claims on appeal are: 1-27

#### **IV STATUS OF AMENDMENTS** (37 C.F.R. § 41.37(c)(1)(iv))

5 Insofar as understood by the Appellant, all amendments have been acted upon and entered by the Examiner.

#### **V SUMMARY OF CLAIMED SUBJECT MATTER** (37 C.F.R. § 41.37(c)(1)(v))

10 Appellants' invention comprises method and apparatus for a transaction source and a transaction target to exchange a transaction that cannot be repudiated (claims 1 and 19); for establishing a transaction as nonrepudiate able by a transaction source (claims 5 and 23), and establishing a transaction as nonrepudiate able by a transaction target/recipient (claims 14 and 26).

15 Appellants' FIG. 15 best depicts the claimed invention. Regrettably however, FIG. 9 is on the cover page of the published application but is not particularly relevant to the present claims. FIG. 9 more appropriately goes with the claims in related U.S. Pat. 7,277,549. For example, nothing in FIG. 9 represents an authentication assertion, where these come from, or how they are used. In contrast, FIG. 15 and 16 show all of this and [0254]-[0280] describe it in  
20 detail.

Turning now to claims 1 and 19, using references here from FIG. 15 and 16, these claims are directed to a method and a system for a transaction source (414) and a transaction target (416) to exchange a transaction (424) that cannot be repudiated (see generally [0254]-[0280]). In the case of claim 19, all of the following occurs in a computerized key server (420).

25 A first request for a transaction identifier (428) to identify the transaction (424) is received (step 454)([0256], source communicates with key server), wherein this request includes a source authentication assertion (422). The source authentication assertion (422) is verified (step 456). The transaction identifier (428) and information from the source authentication assertion (422) are stored (step 460)([0256], the key server records these), thereby establishing  
30 information making the transaction source (414) unable to plausibly repudiate once it encrypts and sends the transaction (424)([0257]-[0259]). The transaction identifier (428) is provided in

reply (step 462) to the first request so that the transaction (424) and the transaction identifier (428) can be sent to the transaction target (416).

A second request is received (step 464) for a decryption key (430) to decrypt the transaction (424) once it has been received by the transaction target (416), wherein this request includes the transaction identifier (428) and a target authentication assertion (422)([0260]). The target authentication assertion (422) is verified (step 466). The transaction identifier (428) and information from the target authentication assertion (422) are stored (step 470)([0260]), thereby establishing information making the transaction target unable to plausibly repudiate being a recipient of the transaction ([0262]). And so that the transaction (424) can be decrypted, in reply to the second request the decryption key (430) is provided (step 472)([0260]).

Turning next to claims 5 and 23, these are directed to a method and a system for establishing a transaction (424) as nonrepudiate able by a transaction source (414) that is the origin of the transaction (424)(FIG. 15 and 16, see generally [0254]-[0280]). In the case of claim 23, all of the following occurs in a computerized key server (420).

A request for a transaction identifier (428) to identify the transaction (424) is received (step 454) ([0256], source communicates with key server), wherein this request includes a source authentication assertion (422). The source authentication assertion (422) is verified (step 456). The transaction identifier (428) and information from the source authentication assertion (422) are stored (step 460)([0256], the key server records these), thereby establishing information making the transaction source (414) unable to plausibly repudiate once it encrypts and sends the transaction (424)([0257]-[0259]). The transaction identifier (428) is provided in reply (step 462) to the request so that the transaction (424) and the transaction identifier (428) can be sent to the transaction target (416).

And turning now to claims 14 and 26, these are directed to a method and a system for establishing a transaction (424) as nonrepudiate able by a transaction target (416) that is a recipient of the transaction (424), wherein a transaction identifier (428) identifying the transaction (424) and a decryption key (430) usable to decrypt the transaction (424) have been pre-stored. In the case of claim 26, all of the following occurs in a computerized key server (420).

A request is received (step 464) for the decryption key (430) to decrypt the transaction (424) once it has been received by the transaction target (416), wherein this request includes the

transaction identifier (428) and a target authentication assertion (422)([0260]). The target authentication assertion (422) is verified (step 466). The transaction identifier (428) and information from the target authentication assertion (422) are stored (step 470)([0260]), thereby establishing information making the transaction target unable to plausibly repudiate being a  
5 recipient of the transaction ([0262]). And so that the transaction (424) can be decrypted, in reply to the request the decryption key (430) is provided (step 472)([0260]).

As can now be appreciated, a trusted third-party system is employed. The source (414) and a key server (420) use an authentication authority (418) as a trusted third-party. Similarly, the target (416) and the key server (420) also use the authentication authority (418) as a trusted  
10 third-party. The transaction (424) can be a message like an e-mail, an instant message, a video-conference, a collaborative document, etc. ([0007]). Of particular importance here is that such a message can have a transactional character. That is, the fact that a message exists and is communicated is necessary but not especially relevant, and even that the message is secured so that only the source and the target(s) know its contents is not especially relevant. Rather, what is  
15 important here is that the message establishes a transaction (e.g., a business event) between the transacting parties. For this non-repudiation and audit are important.

As context for how this has real-world application, the specification states an example:

*For example, when a financial brokerage company determines that a customer's margin call is due it must send the customer a notice. The brokerage  
20 company may follow up with a phone call. The ability of the business to determine if the customers have opened their notices impacts the process of calling the customers to follow up. In this example, if the business can prove that the customer has opened the notice, then it need not call the customer to follow up. This can result in a reduced number of customer follow up calls, which in turn  
25 translates into savings for the business. [0020]*

Say that brokerage employee Alice sends customer Bob a margin call transaction. If Bob receives the transaction and requests the key, the key server can inform Alice. If the key server does not release the key, which it should only do upon verification of an authentication assertion being provided by Bob, Alice can take more affirmative measures to contact Bob (and to sort out  
30 any technical issues relating to key release failure or any malicious ones, such as somebody hacking into Bob's e-mail account). More typically, when the key server does release the key Alice will know that her message arrived and was impliedly viewed by Bob. Any dispute over the facts can be resolved by auditing the records of the key server. Furthermore, any dispute over transaction content can be resolved by the use concurrently of a conventional tamper-detection

mechanism (e.g., transaction encryption and decryption or checksum comparison). With time-stamps used at the key server, the parties also cannot repudiate when the transaction was exchanged.

## **VI GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

(37 C.F.R. § 41.37(c)(1)(vi))

A. Whether claims 1-27 are obvious over U.S. Patent Number 7,146,009 by Andivahis et al. (hereinafter Andivahis) in view of U.S. Publication Number 2004/0139319 by Favazza et al. (hereinafter Favazza), and thereby unpatentable under 35 U.S.C. § 103(a).

## **VII ARGUMENT**

(37 C.F.R. § 41.37(c)(1)(vii))

*To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.* MPEP §§ 706.02(j), 2143

### **VII(A) ARGUMENTS—PRELIMINARY COMMENTS**

There are two major points of disagreement between the Examiner and Appellant.

The first is over message non-repudiation. A non-repudiate-able message is one that the sender cannot deny, either with respect to having sent it or with respect to its content. Appellant has pointed out that the:

*claims are all directed to systems and methods to achieve message non-repudiation, and neither Andivahis or Favazza teach how to achieve non-repudiation ... [and that] [t]his begs the question, if none of the cited references teach non-repudiation, how can any combination of the cited references support rejection of Applicant's claims for non-repudiation systems and methods?* (08/24/2007 Response at pg. 5, ln. 24 through pg. 6, ln. 2)

The Examiner has merely argued in reply to this that Andivahis teaches that a request for a key with an "assertion" is verified by a trusted party, and noted other irrelevant details

(09/10/2007 advisory Action, 2<sup>nd</sup> to last ¶ on Continuation Sheet). Accordingly, it presently stands un rebutted that the cited references do not teach or reasonably suggest how to achieve message non-repudiation, and that the only such teaching of such that is of record in this case is Appellant's own specification.

5

The second major point of disagreement is over a key claim element, an authentication assertion. An authentication assertion is used in every step or is a sub-element in every element in every independent claim in this case. However, the Examiner still apparently does not understand what an authentication assertion is or how one is used. Appellant's FIG. 15 depicts authentication assertions and paragraph [0255] of the specification describes them:

10

*the authentication authority 418 issues the transacting party 412 an authentication assertion 422. ... The assertion 422 includes the identity of the transacting party 412; the identity of the authentication authority 418; the validity period of the authentication assertion 422; and optional confirmation data, used by the key server 420 to prove that the transacting party 412 is the rightful owner of the assertion 422.*

15

With this as context, it can be seen that the cited references do not teach or reasonably suggest authentication assertions, either alone or taken in combination.

The Examiner primarily relies on Andivahis as teaching a perceived equivalent to an authentication assertion, yet what Andivahis teaches comes from a different source (a key server vs. Appellant's authentication authority/server) and is used differently (for performing registration with the key server vs. authenticating one party to another with an existing authentication assertion). Notably, Andivahis' figures nowhere show anything arguably equivalent to Appellant's authentication authority and, as discussed below, its text does not disclose such either. Andivahis merely shows and discusses a key server. And Favazza does not teach either an authentication authority or a key server. The only element in it that is even superficially arguable in this respect is its policy server (56), and at [0033] it defines this as something not applicable here. Also, at [0030] Favazza shows that its handling of "authentication" is conventional and not applicable to Appellant's authentication authority and the authentication assertions this issues for use by other elements of the claimed invention.

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## **VII(B) THE REJECTIONS UNDER 35 U.S.C. § 103(a) BASED ON THE COMBINATION OF ANDIVAHIS AND FAVAZZA ARE IMPROPER**



**VII(B)(i) A Prima Facie Case Of Obviousness Has Not Been Established For Claim 1  
(Or Dependant Claims 2-4)**

VII(B)(i)(a) There Is No Reasonable Expectation Of Success

5 Claim 1 recites a *"method for a transaction source and a transaction target to exchange a transaction that cannot be repudiated."* By definition, success here is non-repudiate-ability. But neither Andivahis, Favazza, or their combination teach or reasonably suggest how a message or transaction or anything can be made non-repudiate-able. The only counter remarks in this entire prosecution are a recitation of irrelevant details in the 09/10/2007 advisory Action, 2<sup>nd</sup> to last ¶  
10 on Continuation Sheet.

VII(B)(i)(b) Andivahis And Favazza Do Not Teach Or Suggest All The Claim Limitations

Two key elements (limitations) in claim 1 are a source authentication assertion and a target authentication assertion. Neither Andivahis or Favazza teach or reasonably suggest either  
15 of these, and thus neither does their combination. For example, step (a) of claim 1 recites *"receiving a first request for a transaction identifier to identify the transaction, wherein said request includes a source authentication assertion."* Since this is the first step of the claimed method here, the source authentication assertion has to already exist to have been included in the request that is received here. The Examiner has cited (06/29/2007 office Action, pg. 5)

20 Andivahis at col. 4, ln. 22-37 as teaching this. But what Andivahis actually describes here is:

*an authentication process ... between [a] sender 210 and [a] key server ...  
[wherein] the sender sends an authentication request message to the key server  
and the latter responds with a number of strings of random bits, one such string  
for each such message to be sent to the key server. (underline emphasis added)*

25 Two things are particularly noteworthy here.

First, there is nothing equivalent to Appellant's authentication assertion in Andivahis' authentication request message. Andivahis does not recite anything equivalent here, and to understand why Andivahis does not need such one only has to look back to col. 4, ln. 16-22. Here we see that Andivahis' key server uses a database of registered users. Nothing Andivahis  
30 uses is equivalent to an authentication assertion from a trusted third party.

Second, Andivahis' strings of random bits are not authentication assertions. They are issued by the key server after a sender request, so there is a did the chicken or the egg come first

type problem here. Andivahis' bit strings also are for future messages to be sent to the key server (not messages to be sent from its sender to its recipient). Here it needs to be recalled that claim 1 is for a "*method for a transaction source and a transaction target to exchange a transaction.*" Granted, claim 1 does not recite that such a transaction cannot go via a key server, but one of  
5 ordinary skill in the art will readily appreciate that having messages and keys all pass via the same server seriously undermines security. Appellant's disclosure shows that this is unnecessary (see e.g., FIG. 15) and claim 1 here should not be construed in a manner that a skilled artisan would not employ (notably, one that Andivahis does not employ with its actual sender-recipient messages).

10

**VII(B)(ii) A Prima Facie Case Of Obviousness Has Not Been Established For Claim 5  
(Or Dependant Claims 6-13)**

Claim 5 includes a subset of the steps recited in claim 1. Specifically, it recites essentially  
15 the same steps (a)-(d) that apply to just the source side in a transaction exchange.

As such, Appellant's arguments above also apply here. The Andivahis-Favazza combination [1] does not provide a reasonable expectation of success and [2] does not teach or suggest all the claim limitations. Success by definition is transaction non-repudiation and nothing in the record here other than Appellant's own specification teaches how to achieve this.

20 Similarly, we have shown that the cited references do not teach or reasonably suggest a source authentication assertion.

**VII(B)(iii) A Prima Facie Case Of Obviousness Has Not Been Established For Claim 14  
(Or Dependant Claims 15-18)**

25 Claim 14 also includes a subset of the steps recited in claim 1. Specifically, it recites as steps (a)-(d), rather than steps (e)-(h) of claim 1, that apply to just the target side in a transaction exchange.

As such, Appellant's arguments above apply here as well. The Andivahis-Favazza  
30 combination [1] does not provide a reasonable expectation of success and [2] does not teach or suggest all the claim limitations. Success here again, by definition, is transaction non-repudiation

and nothing in the record here other than Appellant's own specification teaches how to achieve this. Similarly, we have shown that the cited references do not teach or reasonably suggest a target authentication assertion.

**VII(B)(iv) A Prima Facie Case Of Obviousness Has Not Been Established For Claim 19  
(Or Dependant Claims 20-22)**

As a preliminary point, claim 19 is essentially an apparatus employing the method of claim 1, and thus is subject to the same rationale discussed above for claim 1. Again, the Examiner has based rejection on the Andivahis-Favazza combination where these references do not provide a reasonable expectation of success and they do not teach or suggest all of the claim limitations.

Furthermore, in claim 19 the recitation of apparatus limitations distinguishes Appellant's claimed invention from Andivahis and Favazza even more clearly. Andivahis teaches a key server that performs user registration and issues bit strings for use in later messages sent to that key server. Andivahis only works if there is registration at its key server (240). In contrast, claim 19 recites a key server, but one that receives an already existing authentication assertion. Registration with Appellant's key server is simply not necessary, because the authentication assertion is all that the key server needs to perform its job. Notably, Appellant's key server does not need to know about the source and target of a transaction beyond that an authentication authority is vouching for them. This can further enhance security, say, if the key server itself is compromised.

Andivahis' bit strings are also not equivalent to Appellant's authentication assertions. Andivahis bit strings are essentially receipts, and they thus are only acceptable with their issuer or some closely affiliated party. In contrast, Appellant's authentication assertions are acceptable by any number of non-affiliated key servers (or other entities). Appellant's authentication assertions are issued by trusted third parties. As long as a key server has reason to trust a authentication authority (e.g., a financial institution, major corporation, government branch, etc.), the key server has reason to trust such authentication assertions.

30 Favazza does not teach anything that changes this. The Examiner has noted that “*Favazza teaches a customer inserting an assertion, and a signature into an initial request to a web*



**VIII CLAIMS APPENDIX**  
(37 C.F.R. § 41.37(c)(1)(viii))

The text of the claims involved in the appeal are:

5

1. A method for a transaction source and a transaction target to exchange a transaction that cannot be repudiated, the method comprising:

10

(a) receiving a first request for a transaction identifier to identify the transaction, wherein said request includes a source authentication assertion;

(b) verifying said source authentication assertion;

(c) storing said transaction identifier and information from said source authentication assertion, thereby establishing information making the transaction source unable to plausibly repudiate once it encrypts and sends the transaction;

15

(d) providing said transaction identifier in reply to said first request so that the transaction and said transaction identifier can be sent to the transaction target;

(e) receiving a second request for a decryption key to decrypt the transaction once it has been received by the transaction target, wherein said second request includes said transaction identifier and a target authentication assertion;

(f) verifying said target authentication assertion;

20

(g) storing information from said target authentication assertion with the transaction identifier; and

(h) providing said decryption key in reply to said second request so that the transaction can be decrypted, thereby establishing information making the transaction target unable to plausibly repudiate being a recipient of the transaction.

25

2. The method of claim 1, wherein said step (d) includes also providing an encryption key to encrypt the transaction.

3. The method of claim 1, the method further comprising:

30

(i) receiving an information request for source information about the transaction source, wherein said information request includes said transaction identifier;

- (j) retrieving at least some of said information from said source authentication assertion stored in said step (c) with said transaction identifier and determining said source information therefrom; and
- (k) providing said source information in reply to said information request.

5

4. The method of claim 1, the method further comprising:

- (i) receiving an information request for target information, wherein said information request includes said transaction identifier and information identifying the transaction target;

10

- (j) determining if said information identifying the transaction target matches with any said information from said target authentication assertion stored with the transaction identifier stored in said step (g) and determining said target information therefrom; and

- (k) providing said target information in reply to said information request.

15

5. A method for establishing a transaction as nonrepudiate able by a transaction source that is the origin of the transaction, the method comprising:

- (a) receiving a request for a transaction identifier to identify the transaction, wherein said request includes a source authentication assertion;

20

- (b) verifying said source authentication assertion;

- (c) storing said transaction identifier and information from said source authentication assertion; and

- (d) providing said transaction identifier in reply to said request, thereby establishing information making the transaction source unable to plausibly repudiate being the origin of the transaction.

25

6. The method of claim 5, wherein said step (d) includes also providing an encryption key to encrypt the transaction.

30 7. The method of claim 5, the method further comprising:

- (e) receiving an information request for source information about the transaction source,  
wherein said information request includes said transaction identifier;
- (f) retrieving at least some of said information from said source authentication assertion  
stored in said step (c) with said transaction identifier and determining said source  
5 information therefrom; and
- (g) providing said source information in reply to said information request.

8. The method of claim 7, wherein said source information indicates who the transaction source  
actually is.

10 9. The method of claim 7, wherein:

- said information request received in said step (e) also includes information identifying a  
party believed to be the transaction source; and
- said source information provided in said step (g) indicates merely whether said party is  
15 the transaction source, thereby responding to said information request without  
specifically identifying the transaction source.

10. The method of claim 7, wherein:

- said step (c) includes also storing a decryption key usable to decrypt the transaction; and
- 20 said step (g) includes also providing said decryption key, thereby facilitating decryption  
of the transaction by a party making said information request even when said  
party is not the transaction source or a target of the transaction.

11. The method of claim 7, wherein:

- 25 said information request received in said step (e) also includes the transaction; and
- said step (g) includes decrypting the transaction before providing said source information  
in reply to said information request.

12. The method of claim 11, wherein:

- said information request received in said step (e) also includes information identifying a  
30 party believed to be the transaction source; and

said source information provided in said step (g) indicates merely whether said party is the transaction source, thereby responding to the second request without specifically identifying the transaction source.

13. The method of claim 11, wherein said step (g) includes also providing the transaction in decrypted form in said reply to said information request, thereby facilitating a party making said information request being able to confirm the content of the transaction even when said party is not the transaction source or a target of the transaction.

14. A method for establishing a transaction as nonrepudiate able by a transaction target that is a recipient of the transaction, wherein a transaction identifier identifying the transaction and a decryption key usable to decrypt the transaction have been pre-stored, the method comprising:

- (a) receiving a request for the decryption key, wherein said request includes the transaction identifier and a target authentication assertion;
- (b) verifying said target authentication assertion;
- (c) storing information from said target authentication assertion with the transaction identifier; and
- (d) providing the decryption key in reply to said request, thereby establishing information making the transaction target unable to plausibly repudiate being a recipient of the transaction.

15. The method of claim 14, the method further comprising:

- (e) receiving an information request for target information, wherein said information request includes said transaction identifier and information identifying the transaction target;
- (f) retrieving at least some of said information from said target authentication assertion stored in said step (c) with said transaction identifier and determining said target information therefrom; and
- (g) providing said target information in reply to said information request.

16. The method of claim 15, wherein:



said step (g) includes also providing said decryption key, thereby facilitating decryption of the transaction by a party making said information request even when said party is not the transaction source or a transaction target.

17. The method of claim 15, wherein:

5       said information request received in said step (e) also includes the transaction; and  
      said step (g) includes decrypting the transaction before providing said identity  
      information.

18. The method of claim 17, wherein said step (g) includes also providing the transaction in  
decrypted form in said reply to said information request, thereby facilitating a party making said  
10   information request being able to confirm the content of the transaction even when said party is  
not the transaction source or a transaction target.

19. A system for a transaction source and a transaction target to exchange a transaction that  
cannot be repudiated, comprising:

      a computerized key server;  
15       said key server suitable for receiving a first request via a network for a transaction  
          identifier to identify the transaction, wherein said first request includes a source  
          authentication assertion;  
      said key server suitable for receiving a second request via said network for a decryption  
          key usable to decrypt the transaction, wherein said second request includes said  
20       transaction identifier and a target authentication assertion;  
      said key server suitable for verifying said source authentication assertion and said target  
          authentication assertion;  
      said key server suitable for storing said transaction identifier, information from said  
          source authentication assertion, and information from said target authentication in  
25       association in a database;  
      said key server suitable for providing a first reply to said first request via said network  
          that includes said transaction identifier; and

said key server suitable for providing a second reply to said second request via said network that includes said decryption key, thereby establishing information making the transaction source unable to plausibly repudiate once it encrypts and sends the transaction and also making the transaction target unable to plausibly repudiate once it is provided said decryption key.

20. The system of claim 19, wherein said key server is further suitable for providing an encryption key to encrypt the transaction in said first reply.

21. The system of claim 19, wherein:

said key server is further suitable for receiving an information request for source information about the transaction source, wherein said information request includes said transaction identifier;

said key server is further suitable for retrieving said information from said source authentication assertion stored with said transaction identifier from said database and determining said source information therefrom; and

said key server is further suitable for providing said source information in reply to said information request.

22. The system of claim 19, wherein:

said key server is further suitable for receiving an information request for target, wherein said information request includes said transaction identifier and information identifying the transaction target;

said key server is further suitable for determining if said information identifying the transaction target matches with any said information from said target authentication assertion stored with the transaction identifier and determining said target information therefrom; and

said key server is further suitable for providing said target information in reply to said information request.

23. A system for establishing a transaction as nonrepudiate able by a transaction source that is the origin of the transaction, comprising:

a computerized key server;

said key server suitable for receiving a request via a network for a transaction identifier to

5                    identify the transaction, wherein said request includes a source authentication  
                         assertion;

said key server suitable for verifying said source authentication assertion;

said key server suitable for storing said transaction identifier and information from said  
                         source authentication assertion in a database; and

10                   said key server suitable for providing a reply via said network that includes said  
                         transaction identifier, thereby establishing information making the transaction  
                         source unable to plausibly repudiate once it encrypts and sends the transaction.

24. The system of claim 23, wherein said key server is further suitable for providing an encryption key to encrypt the transaction in said reply.

15    25. The system of claim 23, wherein:

said key server is further suitable for receiving an information request for source  
                         information about the transaction source, wherein said information request  
                         includes said transaction identifier;

                         said key server is further suitable for retrieving information from said source  
20                   authentication assertion stored with said transaction identifier from said database,  
                         and determining said source information therefrom; and

said key server is further suitable for providing said source information in reply to said  
                         information request.

26. A system for establishing a transaction as nonrepudiate able by a transaction target that is a  
25    recipient of the transaction, wherein a transaction identifier identifying the transaction and a  
                         decryption key usable to decrypt the transaction have been pre-stored in a database, comprising:  
                         a computerized key server;

said key server suitable for receiving a request via a network for the decryption key,  
wherein said request includes the transaction identifier and a target authentication  
assertion;

said key server suitable for verifying said target authentication assertion;

5      said key server suitable for storing information from said target authentication assertion  
with the transaction identifier in the database; and

said key server suitable for providing a reply via said network that includes the  
decryption key, thereby establishing information making the transaction target  
unable to plausibly repudiate.

10      27. The system of claim 26, wherein:

said key server is further suitable for receiving an information request for target  
information, wherein said information request includes said transaction identifier  
and information identifying the transaction target;

15      said key server is further suitable for retrieving at least some of said information from  
said target authentication assertion stored with said transaction identifier and  
determining said target information therefrom; and

said key server is further suitable for providing said target information in reply to said  
information request.

**IX EVIDENCE APPENDIX**  
(37 C.F.R. § 41.37(c)(1)(ix))

None.

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**X RELATED PROCEEDINGS APPENDIX**  
(37 C.F.R. § 41.37(c)(1)(x))

None.

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Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Raymond E. Roberts". The signature is fluid and cursive, with the first name "Raymond" and last name "Roberts" clearly distinguishable.

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